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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,060	06/01/2001	Stanton M. Keeler	M-11585 US	2297

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MacPherson Kwok Chen & Heid LLP  
1762 Technology Drive,  
Suite 226  
San Jose, CA 95110

EXAMINER
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TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 02/18/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

PRG

# Office Action Summary

Application No.

09/872,060

Applicant(s)

KEELER, STANTON M.

Examiner

Joseph D. Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 16-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse in Paper No. 14 is acknowledged. The traversal is on the ground(s) that in an optical disk with a thin transparent layer, dust particles are not defocused, but must be dealt with using ECC alone thus the thin transparent layer does not contribute in any way to errors introduced into the data stored on the optical disk media (page 2 of Paper No. 14 in the current Application). The Examiner introduces the teaching art Luecke; Frank et al. (US 5416757 A, hereafter referred to as Luecke) in support of the Applicant's assertion; Luecke teaches "Surface defects or contamination on the cover plate do not normally introduce errors because they are not in the focal plane of the objective lens in the optical head" (col. 1, lines 50-53, Luecke). Hence as the Applicant contends, since the thin transparent layer does not contribute in anyway to errors introduced into the data stored on the optical disk media, an optical disk with or without the thin transparent film are substantially equivalent with regard to the errors introduced into the data stored on the optical disk. The Examiner is persuaded by the Applicant's arguments and rejoins the claims. All claims 16-24 will be examined in the current office action.

***Response to Arguments***

2. Applicant's arguments with respect to claims 16-24 have been considered but are moot in view of the new ground(s) of rejection. However some of the Applicant's arguments are relevant to the current claims and are addressed below

The Applicant contends, "Nakatsuji is entirely silent and makes no suggestion whatsoever regarding the use of first surface optical disks as invented by the patentee". The Examiner would like to point out that the applicant admits that since dust particles are not defocused (but must be dealt with using ECC alone), the thin transparent layer does not contribute in any way to errors introduced into the data stored on the optical disk media (page 2 of Paper No. 14 in the current Application). The teaching reference, Luecke (US 5416757 A) teaches that a thin transparent layer such that "Surface defects or contamination on the cover plate do not normally introduce errors because they are not in the focal plane of the objective lens in the optical head", hence a thin transparent layer such that dust particles are not defocused is not the patentee's invention. Hence, it is the Examiner's conclusion that the ECC block as cited in claim 16 is what the Applicant regards as his invention. Nakatsuji teaches a general ECC block with parameters that can be adjusted to create an ECC block embodiment of the teachings in the Nakatsuji patent identical to the ECC block in the Applicant's claim 16, hence the ECC block in the Applicant's claim 16 is still an embodiment of the ECC block taught in the Nakatsuji patent. Furthermore, the Examiner asserts that it is well known in the art that error correction parameters can be adjusted to increase error correction capabilities

and that one of ordinary skill in the art at the time the invention was made would have known how to and have been highly motivated to adjust error correction parameters to meet the requirements of a particular application. Hence, increasing error correction is an obvious Engineering design choice.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakatsuji, Fumio et al. (US 6332206 B1, hereafter referred to as Nakatsuji).

Note: MPEP § 2131.01 states "To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that

it would be so recognized by persons of ordinary skill." *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). Hence the Examiner introduces Luecke; Frank et al. (US 5416757 A, hereafter referred to as Luecke) as a teaching reference on optical disks (strictly to point out that thin transparent layers do not contribute in anyway to errors introduced into the data stored on the optical disk media).

35 U.S.C. 103(a) rejection of claim 16.

Nakatsuji teaches a data storage disk having an error correction code ECC block (Figure 1 in Nakatsuji is an error correction code ECC block) stored on said disk (see Optical Disc I/F 12 in Figure 5 of Nakatsuji), said ECC block comprising: an array of  $n_2$  rows and  $n_1$  columns of bytes (col. 1, lines 29-47, Nakatsuji), each row including  $m_1$  bytes of inner parity and each column including  $m_2$  bytes of outer parity (see Figure 1 and col. 1, lines 29-47 in Nakatsuji).

However Nakatsuji, does not explicitly teach the specific use of an ECC block of 104 rows and 182 columns of bytes, each row including ten bytes of inner parity and each column including sixteen bytes of outer parity nor does Nakatsuji teach a transparent layer overlaying the information layer.

Note: if the values  $n_1$ ,  $n_2$ ,  $m_1$  and  $m_2$  in Nakatsuji are selected such that  $n_1=182$ ,  $n_2=104$ ,  $m_1=10$  and  $m_2=16$ , then the array of Figure 1 in Nakatsuji comprises an array of  $n_2=104$  rows and  $n_1=182$  columns of bytes, each row including  $m_1=10$  bytes of inner parity and each column including  $m_2=16$  bytes of outer parity. The Examiner asserts

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that one of ordinary skill in the art at the time the invention was made would have been highly motivated to select specific values for  $n_1$ ,  $n_2$ ,  $m_1$  and  $m_2$  in Nakatsuji based on obvious engineering design choices to ensure adequate error correction capabilities and to ensure that the ECC block complies with standards that dictate the make-up of transport frames and storage sectors for an optical disk. In addition, the applicant admits that since dust particles are not defocused (but must be dealt with using ECC alone), the thin transparent layer does not contribute in any way to errors introduced into the data stored on the optical disk media (page 2 of Paper No. 14 in the current Application). The teaching reference, Luecke (US 5416757 A) teaches that a thin transparent layer such that "Surface defects or contamination on the cover plate do not normally introduce errors because they are not in the focal plane of the objective lens in the optical head", hence a thin transparent layer such that dust particles are not defocused is not the patentee invention. Hence, it is the Examiners conclusion that the ECC block as sited in claim 16 is what the Applicant regards as his invention. Nakatsuji teaches a general ECC block with parameters that can be adjusted to create an ECC block embodiment of the teachings in the Nakatsuji patent identical to the ECC block in the Applicant's claim 16, hence the ECC block in the Applicant's claim 16 is still an embodiment of the ECC block taught in the Nakatsuji patent. Furthermore, the Examiner asserts that it is well known in the art that error correction parameters can be adjusted to increase error correction capabilities and that one of ordinary skill in the art at the time the invention was made would have known how to and have been highly

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motivated to adjust error correction parameters to meet requirements of a particular application. Hence increasing error correction is an obvious Engineering design choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Nakatsuji by including an additional step of selecting  $n_1$ ,  $n_2$ ,  $m_1$  and  $m_2$  in Nakatsuji such that  $n_1=182$ ,  $n_2=104$ ,  $m_1=10$  and  $m_2=16$ . This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that selecting  $n_1$ ,  $n_2$ ,  $m_1$  and  $m_2$  in Nakatsuji such that  $n_1=182$ ,  $n_2=104$ ,  $m_1=10$  and  $m_2=16$  would have provided the opportunity to ensure adequate error correction capabilities and to ensure that the ECC block complies with standards that dictate the make-up of transport frames and storage sectors for an optical disk.

35 U.S.C. 103(a) rejection of claim 17.

Col. 1, lines 29-47 in Nakatsuji teaches that the codewords in Nakatsuji are Reed-Solomon codewords.

4. Claims 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakatsuji, Fumio et al. (US 6332206 B1, hereafter referred to as Nakatsuji) in view of ECMA-279 (ECMA-279 standard for DVD-Recordable Disks, November 1998).

35 U.S.C. 103(a) rejection of claim 18.



Nakatsuji, substantially teaches the claimed invention described in claims 16 and 17 (as rejected above).

However Nakatsuji, does not explicitly teach the specific use of dividing an ECC array into eight sectors, each sector having thirteen rows.

ECMA-279, in an analogous art, teaches that a sector consists of 13 rows with  $n_1=182$  columns of bytes, each row including  $m_1=10$  bytes of inner parity. Since 104 divides 13, it is obvious that the ECC block introduced and discussed in the rejection to claim 16 must be stored in 8 sectors of the recording medium taught in ECMA-279 (see Figure 26 on page 30 of ECMA-279).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Nakatsuji by including an additional step of dividing an ECC array into eight sectors, each sector having thirteen rows. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that dividing an ECC array into eight sectors, each sector having thirteen rows would have provided the opportunity to store the ECC block introduced and discussed in the rejection to claim 16 in 8 sectors of the recording medium taught in ECMA-279 (see Figure 26 on page 30 of ECMA-279).

35 U.S.C. 103(a) rejection of claim 19.

See rejection to claims 16 and 18, above. Note: additional parity generated must be stored in rows allocated for data in order to remain ECMA-279 compliant.

35 U.S.C. 103(a) rejection of claim 20.

ECMA-279 teaches each sector comprises: a four byte identification data (ID) field (see Figure 21 on page 26 of ECMA-279); a two byte ID error detection code field (see Figure 21 on page 26 of ECMA-279); a four byte error detection code field (see Figure 21 on page 26 of ECMA-279); a six byte copyright management information field (Note: copyright management information is system information) and a 1880 byte user data field (Note: using the data field to store additional ECC information would reduce data storage, see rejection to claims 16, 18 and 19, above).

35 U.S.C. 103(a) rejection of claim 21.

See rejection to claims 16, 18 and 19, above. In addition, the Applicant admits that in an optical disk with a thin transparent layer, dust particles are not defocused, but must be dealt with using ECC alone thus the thin transparent layer does not contribute in anyway to errors introduced into the data stored on the optical disk media (page 2 of Paper No. 14 in the current Application). The Examiner introduces the teaching art Luecke; Frank et al. (US 5416757 A, hereafter referred to as Luecke) in support of the Applicant's admission; Luecke teaches "Surface defects or contamination on the cover plate do not normally introduce errors because they are not in the focal plane of the objective lens in the optical head" (col. 1, lines 50-53, Luecke). Hence as the Applicant contends, since the thin transparent layer does not contribute in anyway to errors introduced into the data stored on the optical disk media, an optical disk with or without

the thin transparent film are substantially equivalent with regard to the errors introduced into the data stored on the optical disk.

35 U.S.C. 103(a) rejection of claim 22.

Claim 22 cites substantially cites the same language as claims 18 and 19, rejected above. See rejection to claims 18 and 19, above.

35 U.S.C. 103(a) rejection of claim 23.

Claim 23 cites substantially cites the same language as claim 20, rejected above.

35 U.S.C. 103(a) rejection of claim 24.

Claim 24 cites substantially cites the same language as claim 20, rejected above.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

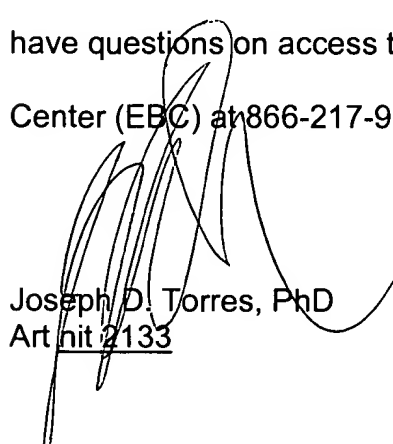
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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

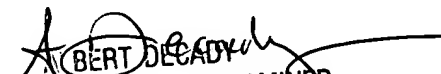
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (703) 308-7066. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph D. Torres, PhD  
Art Unit 2133



ALBERT DECADY  
SUPERVISORY PATENT EXAMINER  
EBC CENTER 2100